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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/692,949	10/20/2000	Olivier K. Swedor	61473/0270144	6427

34845 7590 04/07/2006

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EXAMINER

REILLY, SEAN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/692,949	SWEDOR ET AL.	
	Examiner	Art Unit	
	Sean Reilly	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to Applicant's request for request for continued examination on January 23, 2006. Claims 1-50 are presented for further examination. All independent claims have been amended.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 9-10, 12-20, 25-26, 28-37, 39, 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over John et al. (XNAMI – An eXtensible XML-based paradigm for Network and Application management Instrumentation; hereinafter John) and Nilakantan et al. (U.S. Patent Number 5,541,911; hereinafter Nilakantan).

With regard to claims 1, 3-4, 9, 17, 19-20, 25, 33, and 36-37 John disclosed a method for controlling a data forwarding service in a network device comprising a data forwarding device, comprising the steps of:

Receiving at the network device (e.g. a router, see Introduction Col 1), a document written in accordance with a markup language (description in XML of new objects, pg 5 Col 2 bullet number 1 and pg 7 last ¶ Col 1 – discussion of SET commands to add new objects) and a corresponding document definition (XML DTD, pg 4, Col 1), wherein the document describes

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the service by specifying a class of objects for the data forwarding service (pg 7 Col 1 describing new objects);

Parsing by the network device the received document in accordance with the corresponding document definition, wherein the parsing determines at least one parameter describing the data forwarding service (pg 7 Col 1 last ¶, parsing description of new objects); and parsing from the document an identifier corresponding to the service (e.g. Figure 7, MIB object name)

Executing the service on the network device upon completion of the parsing, in accordance with the parsed document, and wherein the executing includes instantiating and launching the service in the data forwarding device based on the class of objects for the service (pg 7, Col 2 1st ¶, instantiating and running the new MIB objects, for further explanation of runtime representation refer to pg 6 of section 4.1).

John also disclosed controlling and monitoring (any variable in the MIB can be monitored pg 8, Col 2) networking devices (for instance routers, introduction Col 1) by manipulating the network devices MIB remotely (see inter alia, sections 4.1 and 4.2) however, John failed to specifically recite the service is a data forwarding service that configures a forwarding architecture in the network device operable to filter network traffic. Nevertheless it was well known in the art at the time of the invention that MIBs within networking devices (routers) are used to control how packets are forwarded through the router packet forwarding switch fabric, as evidenced by Nilakantan. In an analogous art, Nilakantan disclosed manipulating an MIB within a router through SNMP commands in order to change how packets

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are forwarded through the packet forwarding switch fabric (Nilakantan Col 5, line 61- Col 6, line 9). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to extend John's MIB modification and monitoring system to include an MIB which configures and monitors how packets are forward within a router, given that John's system was meant to be dynamically configured to work with any networking device including routers (John introduction) and further such remote control allows administrators to remotely configure networks (Nilakantan Col 3, lines 44-53).

With regard to claims 2 and 18, John disclosed the means for executing including means for interfacing with hardware and software on the network device (Figure 5, Agent architecture).

With regard to claims 10, 12, 26, and 28, John disclosed means for parsing from the document runtime parameters corresponding to the service (pg 7 Col 1, last ¶ - value to set) and instantiating an object corresponding to the service in accordance with the parsed identifier and the parsed runtime parameters (pg 7, Col 2, 1st ¶).

With regard to claims 13-14, 29-30, 41, John disclosed the network device comprises one of a router, a switch, and a hub, wherein the network device comprises a packet forwarding architecture (e.g. a router, see Introduction Col 1).

With regard to claims 15-16 and 31-32, John disclosed preparing a response corresponding to the executed service and forwarding the response to a remoter requestor of the

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service (e.g. requested monitoring information, pg 8, Col 2; also may be interpreted as simply routing requested data in the case of a router).

With regard to claim 34, John disclosed a network data transfer service that is adapted to communicate with remote devices for receiving the document (SNMP stack, see for instance Figure 5 where the manager transfers files to the agent through SNMP PDUs Figure 8).

With regard to claim 35, John disclosed the network data transfer service comprises an HTTP server (pg 5, last sentence of the 1st ¶).

With regard to claim 39, John disclosed a services storage coupled to the service launcher that stores a plurality of services (MIB tree of objects), the service launcher being further adapted to select the service from the stored plurality of services in accordance with the parsed identifier (instantiate MIB objects, pg 7, Cols 1 and 2).

With regard to claims 42 and 43, Nilakantan disclosed changing how packets are forwarded through the packet forwarding switch fabric and monitoring performance indicators of how packets are forwarded through the packet forwarding switch fabric (Nilakantan Col 5, line 61- Col 6, line 9).

With regard to claim 44, John disclosed the launched service accesses a MIB on the network device (Section 4.1, XNAMI MIB).

With regard to claims 45 and 47, John further discloses device APIs for interoperating with the device hardware and software for executing launched services (java based objects and associated instances, John pg 6, Cols 1 and 2 of Section 4.1).

2. Claims 5-8, 11, 21-24, 27, 38, and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over John and Nilakantan and Bryan (An Introduction to the Extensible Markup Language XML).

With regard to claims 48-50, John disclosed a method for causing a network device to locally perform a service, comprising the steps of:

Identifying the service (e.g. adding a new MIB objects to run) to be performed at a remote client computer (XNAMI manager issues the SET command), and preparing at the remote client computer a document written in a markup language (description in XML of the new object) in accordance with a document definition (XML DTD, pg 4, Col 1), the document including an identifier of the service (e.g. MIB object name) (see pg 5 Col 2 bullet number 1 and pg 7 last ¶ Col 1 – discussion of SET commands to add new objects);

Transmitting the document to the network device (XNAMI sends the SET command, see Figure 8 for contents and pg 8 Col 1, 1st ¶);

Identifying at the network device the document definition corresponding to the transmitted document ();

Parsing by the network device the transmitted document in accordance with the corresponding document definition (pg 7 Col 1 last ¶, parsing description of new objects);
and

Executing the service on the network device in accordance with the parsed document (pg 7, Col 2 1st ¶, instantiating and running the new MIB objects, for further explanation of runtime representation refer to pg 6 of section 4.1).

John disclosed the invention substantially as claimed, however John did not explicitly recite *identifying* at the network device the *document definition* corresponding to the transmitted document. Nevertheless the agent in John's system must be able to properly interpret the sent XML document (description in XML of the new object pg 7 last ¶ Col 1). Further, John disclosed that the transmitted XML document is defined by a document definition (DTD) (John pg 4, Col 1). John did not further discuss the well known use of XML and DTDs within XML instead, motivating the reader to seek out more descriptive teachings outlining DTDs and XML at the SGML/XML web page (www.oasis-open.org/cover/sgml-xml.html) (John pg 4). In an introduction to XML document available at the SGML/XML webpage dating back to at least 1997, Bryan disclosed that XML coded text identifies corresponding DTDs either within the XML document itself (i.e. inline) or alternatively through a link contained within the XML document pointing to a DTD file (i.e. by reference) (Bryan, pg 6 - #2). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the XML DTD identification, as disclosed by Bryan, within the XML file transmitted to the network

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device agents in John's system, so that the device agent is able to identify the appropriate DTD for that XML file (Bryan, pg 6).

With regard to claims 5-8, 21-24, 38, a similar rationale is used for the combination of John and Bryan as applied to claim 48. As discussed above Bryan disclosed identifying a document definition through an identifier (document type declaration Bryan, pg 6 - #2), which is used by the parser (XML processor) to associate the XML file with the corresponding XML DTD (Bryan pg 6). However neither John nor Bryan disclosed storing a plurality of document definitions locally. Nevertheless, it was well known in the art at the time of the invention to store XML DTDs a device needs locally. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to store a plurality of DTDs locally at the agents disclosed by John, within the combined John and Bryan system, so that DTDs referenced in the received XML files would be readily available.

With regard to claim 11 and 27, John disclosed instantiating an object corresponding to the service in accordance with the parsed identifier (pg 7, Col 2, 1st ¶).

3. Claims 40 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over John and Nilakantan and in view of Applicant's admission of the prior art, or alternatively in view of Jaeger et al. (Dynamic Classification in Silicon-based Forwarding Engine Environments, December 1999, hereinafter "Jaeger").

In considering claim 40, John teaches that the service launcher is adapted to launch the service using a runtime environment (java based objects and associated instances, John pg 6, Cols 1 and 2 of Section 4.1). However, John does not disclose the use of the “Oplet Runtime Environment.” Nonetheless, the Oplet Runtime Environment is a well-known environment in the router environment, as evidenced by both Applicant’s admission of prior art (see specification, p. 9, lines 8-16), and by Jaeger (Abstract). A person having ordinary skill in the art would have readily recognized the desirability and advantages of using the ORE to manage the routers in the system taught by John because ORE “supports the creation of services in Java that are extensible, portable, and easily distributed over the network,” (see Jaeger, Conclusion, p. 109). Thus, it would have been obvious to use the Oplet Runtime Environment as the runtime environment in the system taught by John.

In considering claim 46, John further discloses device APIs for interoperating with the device hardware and software for executing launched services (java based objects and associated instances, John pg 6, Cols 1 and 2 of Section 4.1).

Response to Arguments

4. In response to Applicant’s request for reconsideration filed on January 23, 2006, the following factual arguments are noted:
 - a. Neither John et al. nor Nilakantan teach various features of the claimed invention.

Note any of the Humpleman arguments are moot since this that set of rejections has been withdrawn.

In considering (a), Examiner respectfully disagrees with Applicant's argument. Notably Examiner maintains that John teaches all the elements of the claimed invention except that the service is a data forwarding service that configures a forwarding architecture in the network device operable to filter network traffic. Nilakantan is relied on for the teaching of this missing element. Moreover Examiner disagrees with Applicant's remarks which attempt to overly simplify the teachings of John and in particular the various functions that network device MIB tables can be extended to. As is clearly evidenced by Nilakantan, MIB tables can be used in routers to configure a forwarding architecture for filtering network traffic.

Conclusion

5. The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 30, 2006



**KRISNA LIM
PRIMARY EXAMINER**